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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,444	02/07/2006	Hideaki Kaji	80374(47762)	5048
21874 7590 06/14/2011 EDWARDS ANGELL PALMER & DODGE LLP P.O. BOX 55874 BOSTON, MA 02205				
EXAMINER				
HARLAN, ROBERT D				
ART UNIT		PAPER NUMBER		
1762				
MAIL DATE		DELIVERY MODE		
06/14/2011		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/567,444

**Applicant(s)**

KAJI ET AL.

**Examiner**

ROBERT HARLAN

**Art Unit**

1762

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 April 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7.9 and 14-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7.9 and 14-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-945)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. The Amendment and Petition for Time Extension filed by Applicant on 04/14/2011 have been entered.
2. Claims 8 and 10-13 have been canceled.

***Response to Amendment/Arguments***

3. Applicant's amendment and arguments filed on 04/14/2011 have been fully considered and they are found unpersuasive.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for

establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-7, 9 and 14-25 remain rejected under 35

U.S.C. 103(a) as being unpatented over Waki et al., U.S. Patent No. 7,008,994 (hereinafter "Waki") in view of Sano et al., EP 1 153 992 A1 (hereinafter "Sano"). Waki teaches an aqueous pigment dispersion, process for producing the same, and water-based ink. See Waki, Abstract; col. 2, line 58 through col. 3, line 21. Waki teaches a process comprising kneading a mixture containing a styrene-(meth)acrylic acid resin, a pigment, a high-boiling solvent followed by dispersing the mixture in an aqueous medium. See Waki, col. 3, lines 58-67; Example 1-2. The resin has an acid value of 30-300 and Mn 2,000-20,000. See Waki, col. 4, line 21. Waki teach the use of several pigments described in the claimed invention. See Waki, col. 4, lines 37-67. In example 1, the resin is a styrene-acrylic acid copolymer with a styrene-acrylic acid weight ration of 88/12 wherein the copolymer is expected to have a  $T_g$  higher than 90C since the  $T_g$ 's

of styrene homopolymer and acrylic acid homopolymer are both much greater than 90C. Waki further teaches solvent comprising humectants. See Waki, col. 7, lines 16-29. The resin is neutralized with an organic amine during or after the kneading step. See Waki, col. 5, lines 53-67. Waki further teaches the use of planetary mixers for kneading. See col. 5, lines 42-47. The pigment dispersion is used in numerous formulations including coating and inks wherein the coatings and inks include ink-jet ink. See Waki, col. 10, lines 34-67; col. 11, lines 1-17. Waki differs from the present invention in that the present invention requires an alkali metal hydroxide. Sano (see page 5, [0027]) teaches the use of alkali metal hydroxide to neutralize a styrene/acrylic resin. Regarding the claimed alkali metal hydroxide, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the method taught by Waki by replacing the organic amine with another base such as alkali metal hydroxide for neutralizing the carboxylic acid groups of the resin since organic amine and alkali metal hydroxide are functionally equivalent and can be used interchangeably for the purpose of neutralizing carboxylic acid groups. Such replacement would not be expected to result in a critical impact to the dispersion.

7. The Applicant argues Waki teaches a crosslinking step using an organic amine. See Waki, col. 8, lines 11-21. The Applicants states due to the crosslinking step the organic amine is essential in Waki and the alkali metal hydroxide in Sano is not chemically feasible as a replacement for the organic amine in Waki. However, the Examiner points out that in Waki the organic amine is also used as an alkalizing agent to increase the pH and storage capacity. See Waki, col. 9, lines 34-63. Therefore, it is feasible to use an alkali metal hydroxide as a replacement for an organic amine as an agent to increase the pH.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

9. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT HARLAN whose telephone number is (571)272-1102. The examiner can normally be reached on Mon-Thu, 10 AM - 8 PM.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David W. Wu can be reached on (571) 273-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert D. Harlan/  
Primary Examiner  
Art Unit 1762

rdh